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EXAMINER

ABDI, KAMBIZ

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3621

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/919,275
Filing Date: July 31, 2001
Appellant(s): PAPIER ET AL.

Duane C. Basch
Reg. No. 34,545
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed April 25, 2006 appealing from the Office action mailed May 31, 2005.

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(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,437,278	Wilk	8-1995
4,945,476	Bodick et al.	7-1990
2003/0036683 A1	Kehr et al.	2-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15, 19, 22-24 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilk, U.S. Patent No. 5,437,278 in view of Bodick et al, U.S. Patent No. 4,945,476.

As per **Claim 1**, Wilk discloses a system to aid in a visual diagnostic process, comprising:

- an image database (Col. 1, lines 55-62; Col. 2, lines 46-56; Col. 6, lines 15-26);
- a knowledge database, cross-referenced to said image database, for the purpose of assisting in the diagnostic process (Col. 1, lines 55-58; Col. 2, lines 25-32; Col. 4, lines 55-60);
- a user-interface to solicit, from a user, a plurality of descriptive characteristics of a sample requiring diagnoses (Col. 4, lines 48-54; Col. 7, lines 3-8);
- a diagnostic engine, responsive to said characteristics, wherein said characteristics of the sample are employed by said engine to automatically identify, from a plurality of possible diagnoses, a diagnosis that is consistent with the characteristics (Col. 1, lines 59-62; Col. 2, lines 27-33; Col. 4 line 65-Col. 5 line 3); and

Wilk, however, fails to disclose identifying a subset of diagnoses and using the subset of diagnoses to reorganize an information space of said image database for concurrent presentation of a plurality of images for user review via the user-Interface. Bodick et al disclose a computerized aid to the process of medical diagnosis and teach a diagnostic engine that returns a subset including a plurality of diagnoses responsive to characteristics entered by a user (Col. 2, lines 30-61; Col. 3, lines 25-30; Col. 5, lines 40-57; Col. 12 line 64-Col. 13 line 11; Col. 20, lines 15-38; Col. 24, lines 28-48). Bodick et al further disclose automatically reorganizing an information space for concurrent presentation of a plurality of images or user review (Col. 2, lines 30-61; Col. 3, lines 25-30; Col. 5, lines 40-48; Col. 6, lines 15-22; Col. 20, lines 15-38). Thus, it would have been obvious to one of ordinary skill in the art at the time of appellant's invention to modify the system of Wilk and incorporate the ability to identify a subset of possible diagnoses based on a sample of characteristics and further to display the images or other data

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related to the subset of diagnoses as taught by Bodick et al. Bodick et al provides motivation by indicating that these features would benefit doctors or physicians by assisting them in searching information that would help them in diagnosing a medical condition (Col. 1, lines 10-16; Col. 2, lines 1-8).

As per **Claim 2**, Wilk fails to disclose a dynamic diagnostic engine to reorganize the information space upon modification of one of a plurality of descriptive characteristics. Bodick et al disclose a dynamic diagnostic engine to reorganize the information space upon modification of a descriptive characteristics by the user (Col. 2, lines 50-62; Col. 5, lines 50-57; Col. 20, lines 15-39). It would have been obvious to one of ordinary skill in the art at the time of appellant's invention to modify the system of Wilk and include a dynamic diagnostic engine such as that described by Bodick et al in order to assist the doctor in diagnosing a particular medical condition and allow the doctor to dynamically modify a characteristic in an effort to view all proposed diagnoses that may be related.

As per **Claim 3**, Wilk discloses a method for aiding a visual diagnostic process, including the steps of

- creating an image database from a collection of images pertaining to a particular subject matter (Col. 1, lines 55-62; Col. 2, lines 46-56; Col. 6, lines 15-26);

- creating a knowledge database with other data related to the particular subject matter, wherein said knowledge database is cross-referenced to said image database, for the purpose of assisting in the diagnostic process (Col. 1, lines 55-58; Col. 2, lines 25-32; Col. 4, lines 55-60);

- collecting from a user, through a user-interface adapted to the particular subject matter, a plurality of descriptive characteristics of a sample requiring diagnoses (Col. 4, lines 48-54; Col. 7, lines 3-8);

- in response to said descriptive characteristics, automatically identifying, from a plurality of possible diagnoses included within the knowledge database, a diagnosis consistent with the descriptive characteristics collected from the user (Col. 1, lines 59-62; Col. 2, lines 27-33; Col. 4 line 65-Col. 5 line 3).

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Wilk, however, fails to disclose identifying a subset of diagnoses and using the subset of diagnoses to reorganize an information space of said image database for concurrent presentation of a plurality of images for user review via the user-Interface. Bodick et al disclose a computerized aid to the process of medical diagnosis and teach a diagnostic engine that returns a subset including a plurality of diagnoses responsive to characteristics entered by a user (Col. 2, lines 30-61; Col. 3, lines 25-30; Col. 5, lines 40-57; Col. 12 line 64-Col. 13 line 11; Col. 20, lines 15-38; Col. 24, lines 28-48). Bodick et al further disclose reorganizing an information space for concurrent presentation of a plurality of images or user review (Col. 2, lines 30-61; Col. 3, lines 25-30; Col. 5, lines 40-48; Col. 6, lines 15-22; Col. 20, lines 15-38). Thus, it would have been obvious to one of ordinary skill in the art at the time of appellant's invention to modify the system of Wilk and incorporate the ability to identify a subset of possible diagnoses based on a sample of characteristics and further to display the images or other data related to the subset of diagnoses as taught by Bodick et al. Bodick et al provides motivation by indicating that these features would benefit doctors or physicians by assisting them in searching information that would help them in diagnosing a medical condition (Col. 1, lines 10-16; Col. 2, lines 1-8).

As per **Claim 4**, Wilk fails to disclose a dynamic diagnostic engine to reorganize the information space upon modification of one of a plurality of descriptive characteristics. Bodick et al disclose a dynamic diagnostic engine to reorganize the information space upon modification of a descriptive characteristic (Col. 2, lines 50-62; Col. 5, lines 50-57; Col. 20, lines 15-39). It would have been obvious to one of ordinary skill in the art at the time of appellant's invention to modify the system of Wilk and include a dynamic diagnostic engine such as that described by Bodick et al in order to assist the doctor in diagnosing a particular medical condition and allow the doctor to dynamically modify a characteristic in an effort to view all proposed diagnoses that may be related.

As per **Claims 5 and 24**, Wilk discloses a system for reducing diagnostic uncertainty using cross-referenced knowledge and image databases, comprising:

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- a user-interface to solicit a plurality of characteristics of diagnoses from a user (Col. 4, lines 48-54; Col. 7, lines 3-8);

- a diagnostic engine, wherein said characteristics of diagnoses are employed to automatically identify, from a plurality of possible diagnoses for which data is stored in the knowledgebase, a diagnosis from the knowledgebase that is consistent with the characteristics (Col. 1, lines 59-62; Col. 2, lines 27-33; Col. 4 line 65-Col. 5 line 3).

Wilk, however, fails to disclose identifying a subset of diagnoses and using the subset of diagnoses to reorganize an information space of said image database for concurrent presentation of a plurality of images for user review via the user-Interface. Bodick et al disclose a computerized aid to the process of medical diagnosis and teach a diagnostic engine that returns a subset including a plurality of diagnoses responsive to characteristics entered by a user (Col. 2, lines 30-61; Col. 3, lines 25-30; Col. 5, lines 40-57; Col. 12 line 64-Col. 13 line 11; Col. 20, lines 15-38; Col. 24, lines 28-48). Bodick et al further disclose automatically reorganizing an information space for concurrent presentation of a plurality of images or user review (Col. 2, lines 30-61; Col. 3, lines 25-30; Col. 5, lines 40-48; Col. 6, lines 15-22; Col. 20, lines 15-38). Bodick et al further disclose wherein the plurality of characteristics of diagnosis include exposure to certain materials and morphology (Col. 26 line 30-Col. 35 line 30). Thus, it would have been obvious to one of ordinary skill in the art at the time of appellant's invention to modify the system of Wilk and incorporate the ability to identify a subset of possible diagnoses based on a sample of characteristics and further to display the images or other data related to the subset of diagnoses as taught by Bodick et al. Bodick et al provides motivation by indicating that these features would benefit doctors or physicians by assisting them in searching information that would help them in diagnosing a medical condition (Col. 1, lines 10-16; Col. 2, lines 1-8).

As per **Claims 6-11**, Wilt fails to disclose a diagnostic image stack comprising a subset of a plurality of images, each image being associated with a common diagnosis, wherein each image is displayed to depict stages of a disease progression or a plurality of images associated with a particular diagnosis or wherein an image presented to the user includes a display of associated characteristics of

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diagnoses when a user selects a portion of an image being displayed. Bodick et al disclose a diagnostic image stack (Figure 26) comprising a subset of a plurality of images, each image being associated with a common diagnosis and an index into the subset of images wherein the index is independent of the common diagnosis including a display of associated characteristics of diagnoses when a user selects a portion of an image (Figure 26; Col. 2, lines 30-45; Col. 5, lines 40-48; Col. 6, lines 34-46; Col. 20, lines 15-39). It would have been obvious to one of ordinary skill in the art at the time of appellant's invention to modify the system of Wilk and include the above features as taught by Bodick et al in an effort to facilitate the physicians diagnosis of a medical condition by presenting an easily understandable means for enabling the physician to browse different images associated with a particular diagnosis. Bodick et al further discloses a plurality of images associated with a particular diagnosis, however, fail to further disclose images depicting disease progression. Examiner submits, however, that this would have been obvious in view of the teachings of Bodick et al in an effort to offer a plurality of images to the physician in order to determine the nature of the particular disease associated with the current patient.

As per **Claim 12**, Wilk further discloses wherein the diagnostic engine uses the characteristics of diagnoses to perform a pattern recognition operation on the knowledge database and to identify diagnoses with matching characteristics (Col. 1, lines 59-62; Col. 2, lines 27-33; Col. 4 line 65-Col. 5 line 3).

As per **Claims 13-14**, Wilk further discloses wherein the system is applicable to and includes characteristics of diseases that have a dermatological manifestation or visible to the unaided human eye (Col. 2, lines 35-45).

As per **Claim 15**, Wilk further disclose wherein the system for reducing diagnostic uncertainty is applicable to and includes characteristics of diseases that are determined based upon a finding determined by mechanical examination means (Figure 1; Col. 2, lines 10-16).

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As per **Claims 19 and 22-23**, Wilk and Bodick et al fail to specifically disclose wherein the system for reducing diagnostic uncertainty is applicable to and includes characteristics of oral medications. Bodick et al, however, disclose that it will be apparent that the presentation of pictorial images in conjunction with textual data which relate to those images and assist in the evaluation of them is valuable in any area where the appearance of an object under study/examination is of critical importance. Thus, it would have been obvious to one having ordinary skill in the art at the time of appellant's invention to modify the system of Wilk and utilize the invention for any purpose as suggested by Bodick et al for the cognitive process of diagnosis.

As per **Claim 28**, Wilk discloses a system to aid in a visual diagnostic process, comprising:

- a user-interface to solicit a plurality of descriptive characteristics of a sample requiring diagnoses such as modality (Col. 4, lines 48-54; Col. 7, lines 3-8);
- a diagnostic engine, wherein said characteristics of the sample are employed by said engine to identify, from a plurality of possible diagnoses for which data is stored in a knowledgebase, a diagnosis that is consistent with the characteristics (Col. 1, lines 59-62; Col. 2, lines 27-33; Col. 4 line 65-Col. 5 line 3); and

Wilk, however, fails to disclose identifying a subset of diagnoses and using the subset of diagnoses to reorganize an information space of said image database for concurrent presentation of a plurality of images for user review via the user-Interface. Bodick et al disclose a computerized aid to the process of medical diagnosis and teach a diagnostic engine that returns a subset of diagnoses responsive to characteristics entered by a user (Col. 2, lines 30-61; Col. 3, lines 25-30; Col. 5, lines 40-57; Col. 12 line 64-Col. 13 line 11; Col. 20, lines 15-38; Col. 24, lines 28-48). Bodick et al further disclose reorganizing an information space for concurrent presentation of a plurality of images or user review (Col. 2, lines 30-61; Col. 3, lines 25-30; Col. 5, lines 40-48; Col. 6, lines 15-22; Col. 20, lines 15-38). Thus, it would have been obvious to one of ordinary skill in the art at the time of appellant's invention to modify the system of Wilk and incorporate the ability to identify a subset of possible diagnoses based on a sample of characteristics and further to display the images or other data related to the subset of

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diagnoses as taught by Bodick et al. Bodick et al provides motivation by indicating that these features would benefit doctors or physicians by assisting them in searching information that would help them in diagnosing a medical condition (Col. 1, lines 10-16; Col. 2, lines 1-8).

Wilk further fails to specifically disclose that the system is used for the investigation of a death. Bodick et al, however, disclose that it will be apparent that the presentation of pictorial images in conjunction with textual data which relate to those images and assist in the evaluation of them is valuable in any area where the appearance of an object under study/examination is of critical importance. Thus, it would have been obvious to one having ordinary skill in the art at the time of appellant's invention to modify the system of Wilk and utilize the invention for any purpose including investigating a cause of death as suggested by Bodick et al for the cognitive process of diagnosis.

Claims 16-18 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilk, U.S. Patent No. 5,437,278 in view of Bodick et al, U.S. Patent No. 4,945,476 and Kehr et al, U.S. Patent Application Publication No. US 2003/0036683 A1.

As per **Claims 16-18 and 20-21**, Wilk and Bodick et al fail to disclose wherein the user interface to solicit a plurality of characteristics includes at least one symptom represented as an icon. Examiner takes Official Notice, however, that representing items with an icon in a user interface is well known in the art and it would have been obvious to one having ordinary skill in the art at the time of appellant's invention to use icons as a matter of convenience for the user. In support of this Official Notice statement, examiner refers to the teachings of Kehr et al, wherein Kehr et al disclose the use of icons to symbolize various medical information and characteristics associated with a patient (paragraph 362). Accordingly, examiner submits that it would have been obvious to one of ordinary skill in the art at the time of appellant's invention to modify the systems of Wilk and Bodick et al and include the use of icons to represent to symbolize various characteristics or symptoms related to the health of the patient as taught by Kehr et al. As stated previously, one would have been motivated to use icons since they were well

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known in the art at the time of appellant's invention as a means to conveniently represent information in a user interface.

(10) Response to Argument

Appellant argues that Wilk's automated diagnostic system teaches away from the visual aid intended by the present invention. Examiner submits, however, that the language of claim 1 includes a diagnostic engine that automatically identifies a subset of diagnoses that are consistent with the characteristics. Examiner submits that Wilk, along with Bodick, disclose this and that it would have been obvious that a medical professional would have used the systems of Wilk and Bodick as an aid rather than a substitute for a diagnosis. Wilk states that "even if the patient eventually sees a physician for confirming the diagnosis, the computer input will facilitate the physician's evaluation of the patient's condition and reduce the amount of time necessary for the physician to examine the patient" (Col. 3, lines 64-68), thus supporting the idea that the invention may be used as an aid rather than a final diagnosis.

Appellant further argues that Wilk does not disclose the storage of images in an image database, separate from a knowledgebase. Examiner respectfully disagrees and submits that Wilk discloses a memory that stores entire images related to different diseases (Col. 2, lines 46-56; Col. 7, lines 19-24) stored at a dermatological diagnosis and treatment facility and this is being interpreted by the examiner as an image database. Wilk also discloses a computer that compares the image of a patient with the previously stored images and overlaying the sections with sections of the stored images (Col. 2, lines 50-56); and to derive a diagnosis as to the patient's condition (Col. 4 line 65-Col. 5 line 3). This clearly suggests that the computer processing or knowledgebase is separate from the stored images as one skill in the art would understand the system. Furthermore, Bodick et al disclose a knowledgebase that includes both textual and pictorial information (Col. 2, lines 30-61; Col. 3, lines 20-34 and 44-48; Col. 6, lines 15-22; Col. 12 line 50-Col. 13 line 11; Col. 15 line 62-Col. 16 line 3).

Appellant further argues that Wilk fails to disclose a user interface to solicit a plurality of descriptive characteristics. Examiner respectfully disagrees and submits that Wilk discloses the use of a keyboard for entry of information such as known medical history and conditions which is also used in diagnosing the patient (Col. 7, lines 3-8). Additionally it is well within the knowledge of one skill in the art

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to know of many mechanism of entry of data into a computer system or input devices such as mouse or pointer devices, touch screen devices, pen devices etc.

Appellant further argues that Bodick fails to disclose automatically identifying, from a plurality of possible diagnoses, a subset including a plurality of diagnoses that are consistent with the characteristics. Examiner respectfully disagrees and submits that Bodick et al disclose that information on specific diseases may be requested, such as a request for retrieval of all cases having specified features or a request for all cases in which a particular disease was diagnosed and Side by side presentation of pictorial images and display of text information relating to different diseases or features would assist evaluation and diagnosis (Col. 5, lines 40-50). This passage seems to suggest that a concurrent display of a plurality of images.

Appellant further argues that there is no motivation to suggest the references of Wilk and Bodick et al. In response to appellant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the *knowledge generally available to one of ordinary skill in the art*. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Wilk discloses the use of a computerized system to aid in the diagnosis of a patient condition and Wilk discloses that the system may be used by a physician as input that will facilitate the physician's evaluation of the patient's condition and reduce the amount of time necessary for the physician to examine the patient (Col. 3, lines 64-68). Bodick et al also disclose a system used as an aid to a medical professional for diagnosing patient conditions and suggest that such a system would benefit a physician since specialists often need assistance in diagnosing a medical condition or disease based upon his clinical observations of a patient (Col. 2, lines 3-7). Examiner submits that, based on these teachings among others, one having ordinary skill in the art would have been motivated to combine the teachings of the references to Wilk and Bodick et al.

As per Claims 6-11, appellant argues that Bodick et al fail to disclose a diagnostic image stack. Examiner respectfully disagrees and submits that Bodick et al disclose a diagnostic image stack (Figure

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26) comprising a subset of a plurality of images, each image being associated with a common diagnosis and an index into the subset of images wherein the index is independent of the common diagnosis including a display of associated characteristics of diagnoses when a user selects a portion of an image (Figure 26; Col. 2, lines 30-45; Col. 5, lines 40-48; Col. 6, lines 34-46; Col. 20, lines 15-39). More specifically, Bodick et al disclose the display of images associated with various diseases in an image stack or side-by-side presentation (concurrent) (Col. 2, lines 30-45; Col. 5, lines 40-48; Col. 6, lines 34-46).

As per claim 12, appellant argues that Wilk cannot teach what has been alleged since it would require a user interface and characteristics that are not taught by Wilk. Examiner respectfully disagrees and notes that Wilk does disclose a user interface as discussed above.

With regard to claims 16-18 and 20-21, examiner has cited an additional reference to support the previous Official Notice statement. The patent application publication no. 2003/0036683 to Kehr et al. was introduced to support the official notice as it has been clearly indicated in the final office action as such and it was included in the form 892 dated 31 May 2005. Examiner also submits that the citation of the reference in the rejection above has been added, as evidence to substantiate the prior Official Notice statement, does not result in a new issue. Also examiner has reviewed the provisional application that were relied on for effective priority dates and content (Provisional application no 60/200853 filed May 1, 2000 and 60/214688 filed on June 27, 2000) therefore the citation of Kehr reference as supporting document for the Official Notice is both proper for the content as well as effective priority date, which is well before the earliest priority date of the appellants August 1, 2000.

With respect to claims 19, 22-23 and 28, Bodick et al disclose that it will be apparent that the presentation of pictorial images in conjunction with textual data which relate to those images and assist in the evaluation of them is valuable in any area where the appearance of an object under study/examination is of critical importance (Col. 9, lines 42-56). Thus, examiner submits that it would have been obvious to one having ordinary skill in the art at the time of appellant's invention to modify the system of Wilk and utilize the invention for any purpose as suggested by Bodick et al for the cognitive process of diagnosis.

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(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

**KAMBIZ ABDI
PRIMARY EXAMINER**

Kambiz Abdi
Primary Examiner
Art Unit 3621

August 29, 2006

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